

Substitute for form 1449A U.S. Patent and Trademark Office				Complete if Known	
				Application Number	10/736901
				Filing Date	12/17/2003
				First Named Inventor	Boris A. MASLOV
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	1	of		Attorney Docket Number	544092000200

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
QA		6,492,756-B1	12-10-2002	Maslov et al.	
QC		6,420,795-B1	07-16-2002	Mikhail et al.	
QA		6,417,650-B1	07-09-2002	Stefanovic et al.	
QA		6,394,209-B1	05-28-2002	Goehring et al.	
QA		6,362,586-B1	03-26-2002	Naidu	
QA		6,215,198-B1	04-10-2001	Inada et al.	
PAW		6,213,571-B1	04-10-2001	Yamada et al.	
QA		6,209,672-B1	04-03-2001	Severinsky	
PAZ		6,003,626	12-21-1999	Ibaraki et al.	
PAZ		6,002,234	12-14-1999	Ohm et al.	
PAZ		5,997,107	12-07-1999	Koga et al.	
PAZ		5,939,807	08-17-1999	Patyk et al.	
PAZ		5,929,612	07-27-1999	Eisenhaure et al.	
PAZ		5,910,716	06-08-1999	Olsen et al.	
PAZ		5,847,530	12-08-1998	Hill	
PAZ		5,708,337	01-13-1998	Breit et al.	
PAZ		5,677,605	10-14-1997	Cambier et al.	
PAZ		5,652,485	07-29-1997	Spiegel et al.	
PAZ		5,549,371	08-27-1996	Konaga et al.	
PAZ		5,549,172	08-27-1996	Mutoh et al.	
PAZ		5,438,228	08-01-1995	Couture et al.	
PAZ		5,418,437*	05-23-1995	Couture et al.	
PAZ		5,319,844	06-14-1994	Huang et al.	
PAZ		5,311,092	05-10-1994	Fisher	
PAZ		5,028,804	07-02-1991	Laww	
PAZ		4,806,814	02-21-1989	Nold	
PAZ		4,703,189	10-27-1987	DeValentin et al.	
PAZ		4,472,549	09-18-1984	Namba et al.	
PAZ		4,438,341	03-20-1984	Winterbotham	
PAZ		4,316,699	02-23-1982	Schott et al.	
PAZ		5,034,675	07/1991	Nerowski et al.	
PAZ		5,258,697	11/1993	Ford et al.	
PAZ		5,365,137	11/1994	Richardson et al.	
PAZ		6,400,059-B1	06-04-2002	Hsu	
PAZ		6,384,496-B1	05-07-2002	Pyntikov et al.	
PAZ		6,380,648-B1	04-30-2002	Hsu	
PAZ		6,356,005-B1	03-12-2002	Hsu	
PAZ		6,348,752-B1	02-19-2002	Erdman et al.	

Examiner Signature	<i>[Signature]</i>	Date Considered	April 27, 2005
--------------------	--------------------	-----------------	----------------

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449AU.S. Patent and Trademark Office				Complete if Known	
				Application Number	10/736901
				Filing Date	12/17/2003
				First Named Inventor	Boris A. MASLOV
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
(use as many sheets as necessary)					
Sheet	2	of		Attorney Docket Number	544092000200

6,278,216-B1	08-21-2001	Li
6,278,210-B1	08-21-2001	Fatula, Jr. et al.
6,181,035-B1	01-30-2001	Acquaviva
6,169,350-B1	01-02-2001	Yang
6,114,789-	09-05-2000	Pengov et al.
6,094,011-	07-25-2000	Notsu
6,091,216-	07-18-2000	Takahashi et al.
6,034,493-	03-07-2000	Boyd et al.
5,955,814-	09-21-1999	Fujiwara
5,923,106-	07-13-1999	Isaak et al.
5,918,360-	07-06-1999	Forbes et al.
5,903,082-	05-11-1999	Caamano
5,801,473-	09-01-1998	Helwig
5,777,418-	07-07-1998	Lange et al.
5,736,829-	04-07-1998	Goff
5,726,560-	03-10-1998	Eakman et al.
5,646,464-	07-08-1997	Sickafus
5,625,353-	04-29-1997	Katagiri et al.
5,554,903-	09-10-1996	Takara
5,545,936-	08-13-1996	Davenport
5,485,491-	01-16-1996	Salnick et al.
5,212,419-	05-18-1993	Fisher et al.
5,164,623-	11-17-1992	Shkondin
5,130,595-	07-14-1992	Arora
5,111,096-	05-05-1992	Horst
5,105,111-	04-14-1992	Luebke
5,023,527-	06-11-1991	Erdman et al.
5,015,903-	05-14-1991	Hancock et al.
4,990,809-	02-05-1991	Artus et al.
4,864,176-	09-05-1989	Miller et al.
4,786,834-	11-22-1988	Grant et al.
4,754,207-	06-28-1988	Heidelberg et al.
4,683,391-	07-28-1987	Higuchi

Examiner Signature	<i>Edie Cot</i>	Date Considered	April 27, 2005
--------------------	-----------------	-----------------	----------------

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449AU.S. Patent and Trademark Office				Complete if Known	
				Application Number	10/736901 92
				Filing Date	12/17/2003
				First Named Inventor	Boris A. MASLOV
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	3	of		Attorney Docket Number	544092000200


FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code <sup>2</sup> -Number <sup>3</sup> -Kind Code <sup>4</sup> (if known)			
		DE 19909277-A1	10/21/1999		T <sup>5</sup>
		EP 0 006 669 A	1/1980		
76		WO 90/11641	10/1990		
76		DE 195 03 492 A1	08/1996		
76		DE 197 04 576 A1	08/1998		
76		EP 0 866 547 A1	09/1998		

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See attached Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the application number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS					
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.			
	D	IRVING M. GOTTLIEB, Electric Motors and Control Techniques, 2nd Edition, 1994, TAB Books (Imprint of McGraw Hill), New York, pp. 147-151, 207-210 and 235-239			
	DA	JACEK F. GIERAS and MITCHELL WING, Permanent Magnet Motor Technology, 2nd Edition, 2002, Marcel Dekker, Inc., New York, pp. 230-234, 238-264, 275-276, 283-285, 353-359 and 369-373			
	DB	THOMAS M. JAHNS, "Improved Reliability in Solid-State AC Drives by Means of Multiple Independent Phase-Drive Units", IEEE Transactions on Industry Applications, Vol. IA-16, No. 3, May/June 1980, pp. 321-331			
	DC	O. WASYNCZUK, S.D. SUDHOFF, K.A. CORZINE, JERRY L. TICHENOR and P.C. KRAUSE, "A Maximum Torque per Ampere Control Strategy for Induction Motor Drives," IEEE Transactions on Energy Conversion, Vol. 13, No. 2, June 1998, pp. 163-169			
	DD	V. ARCIDIACONO, S. CORSI, G. TAGLIABUE, G. OTTAVIANI, S. TOGNO, G. BAROFFIO, C. RAFFAELLI and E. ROSA, "The ENEL's Experience on the Evolution of Excitation Control Systems through Microprocessor Technology," IEEE Transactions on Energy Conversion, Vol. 13, No. 3, September 1998, pp. 292-299			
	DE	M.A. RAHMAN and M.A. HOQUE, "Online Adaptive Artificial Neural Network Based Vector			

Examiner Signature	<i>Eduard</i>	Date Considered	April 27, 05
--------------------	---------------	-----------------	--------------

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449AU. U.S. Patent and Trademark Office				Complete if Known	
				Application Number	10/736,901
				Filing Date	12/11/2003
				First Named Inventor	Boris A. MASLOV
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	4	of		Attorney Docket Number	544092000200

8/24

		Control of Permanent Magnet Synchronous Motors," IEEE Transactions on Energy Conversion, Vol. 13, No. 4, December 1998, pp. 311-318
DF		T.M. Empson, "Energy Saving Systems for Induction Motors," 1998, at home.clear.net.nz/pages/lmptronics/es090698.pdf
DG		B.J. CHALMERS and W. WU, "An Axial-Flux Permanent-Magnet Generator for a Gearless Wind Energy System," IEEE Transactions on Energy Conversion, Vol. 14, No. 2, June 1999, pp. 251-257
DH		CHIH-YI HUANG, TIEN-CHI CHEN and CHING-LIEN HUANG, "A Microcomputer-based Induction Motor Drive System Using Current and Torque Control," IEEE Transactions on Energy Conversion, Vol. 14, No. 4, December 1999, pp. 874-880
DI		R. BLISSENBACH, G. HENNEBERGER, U. SCHAFER and W. HACKMANN, "Development of a Transverse Flux Traction Motor in a Direct Drive System," ICOM2000 Proceedings, Vol. III, August 30, 2000, pp. 1457-1460
DJ		HERNAN DE BATTISTA, RICARDO J. MANTZ AND CARLOS F. CHRISTIANSEN, "Dynamical Sliding Mode Power Control of Wind Driven Induction Generators," IEEE Transactions on Energy Conversion, Vol. 15, No. 4, December 2000, pp. 451-457
DK		R. BLISSENBACH and G. HENNEBERGER, "New Design of a Soft Magnetic Composite Transverse Flux Machine with Special Attention on the Loss Mechanisms," presented at Electromotion '01 at Bologna, Italy on June 20, 2001
DL		SURESH H. JANGAMSHETTI and V. GURUPRASADA RAU, "Optimum Siting of Wind Turbine Generators," IEEE Transactions on Energy Conversion, Vol. 16, No. 1, March 2001, pp. 8-13
DM		EDUARD MULJADI, HERBERT L. HESS and KIM THOMAS, "Zero Sequence Method for Energy Recovery from a Variable-Speed Wind Turbine Generator," IEEE Transactions on Energy Conversion, Vol. 16, No. 1, March 2001, pp. 99-103
DN		JAWAD FAIZ and MOHAMMAD B.B. SHARIFIAN, "Different Techniques for Real Time Estimation of an Induction Motor Rotor Resistance in Sensorless Direct Torque Control for Electric Vehicle," IEEE Transactions on Energy Conversion, Vol. 16, No. 1, March 2001, pp. 104-109
DO		Z. CHEN and E. SPOONER, "Grid Power Quality with Variable Speed Wind Turbines," IEEE Transactions on Energy Conversion, Vol. 16, No. 2, June 2001, pp. 148-154
DP		M. NASIR UDDIN, TAWFIK S. RADWIN and M. AZIZUR RAHMAN, "Performance of Interior Permanent Magnet Motor Drive Over Wide Speed Range," IEEE Transactions on Energy Conversion, Vol. 17, No. 1, March 2002, pp. 79-84
DQ		TIEN-CHI CHEN and TSONG-TERNG SHEU, "Model Reference Neural Network Controller for Induction Motor Speed Control," IEEE Transactions on Energy Conversion, Vol. 17, No. 2, June 2002, pp. 157-163
DR		T.F. CHAN, LIE-TONG YAN and SHAO-YUAN FANG, "In-Wheel Permanent-Magnet Brushless dc Motor Drive for an Electric Bicycle," IEEE Transactions on Energy Conversion, Vol. 17, No. 2, June 2002, pp. 229-233
DS		K.L. SHI, T.F. CHAN, Y.K. WONG and S.L. HO, "A Rule-Based Acceleration Control Scheme for an Induction Motor," IEEE Transactions on Energy Conversion, Vol. 17, No. 2, June 2002, pp. 254-259
DT		DAVID A. TORREY and JAMES M. KOKERNAK, "Power Steering: Brushless DC or Switched

Examiner Signature	<i>Edgar</i>	Date Considered	April 27, 2005
--------------------	--------------	-----------------	----------------

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A U.S. Patent and Trademark Office				Complete If Known	
				Application Number	✓ 10/736901
				Filing Date	12/17/2003
				First Named Inventor	Boris A. MASLOV
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	5	of		Attorney Docket Number	544092000200

<i>9a</i>	DU	Reluctance?" Power Electronics Technology, Aug. 2002, pp. 24-33
<i>9b</i>	DV	VACON PLC, "Vacon NXS: Advanced Motor Control," undated, at <a href="http://www.vacon.com/products/nxs.html">www.vacon.com/products/nxs.html</a>
<i>9c</i>		V S RAMSDEN, B C MECROW and H C LOVATT, "Design of an In-Wheel Motor for a Solar-Powered Electric Vehicle," undated, at <a href="http://www.ip.csiro.au/Machines/papers/fwscem/">www.ip.csiro.au/Machines/papers/fwscem/</a>
<i>9d</i>		UQM Technologies, Inc. press release dated September 17, 2002 and available on the Web at <a href="http://www.uqm.com/press/news/03-19.html">www.uqm.com/press/news/03-19.html</a>
		Part of the UQM Technologies, Inc. 2002 Annual Report dated June 19, 2002 and available on the Web at <a href="http://www.uqm.com/investor/annual/02Technology.pdf">www.uqm.com/investor/annual/02Technology.pdf</a>
		Jansson, "Advances in soft magnetic composites based on iron powder", Soft Magnetic Materials Conference, Barcelona, Spain, April 1998
		Jack et al., "Permanent magnet machines with powdered iron cores and pre-pressed windings", IEEE IAS Conference, Phoenix, USA, Oct. 1999
<i>9e</i>		White Paper: Induction Motors - constant frequency; constant voltage variable frequency/variable voltage, Reliance Electric, <a href="http://www.reliance.com/prodserv/motgen/b7097_2.htm">http://www.reliance.com/prodserv/motgen/b7097_2.htm</a> , 2001
		Jansson, et al., "Magnetic assessment of SMC materials", 21st Annual Conference on Properties and Applications of Magnetic Materials, Chicago, USA, May 2002

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

Examiner Signature	<i>Eduard</i>	Date Considered	April 27, 05
--------------------	---------------	-----------------	--------------

va-32160